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FORMAT

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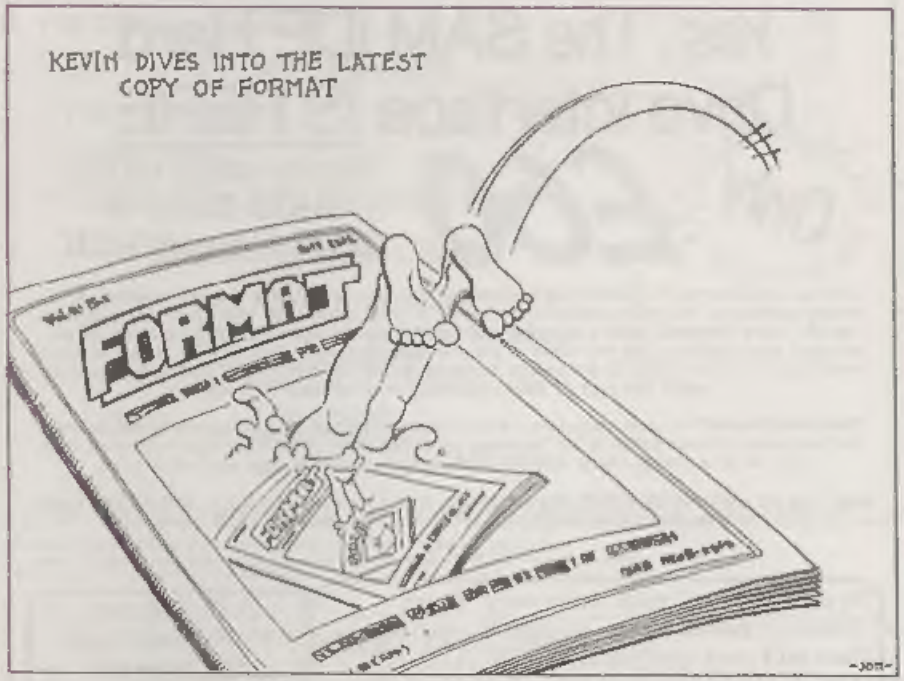

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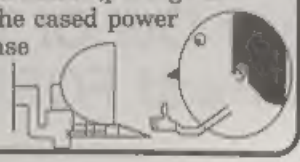

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STOP PRESS...STOP PRESS...STOP PRESS...STOP PRESS...STOP PRESS...ST

Spectrum and SAM Resources Guide - coming with September issue - see Editorial.

Sorry, but due to production problems, the new SAM C column has been delayed until next month.

FORMAT ISSN 0963-8598

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NEWS ON 4

CHANNEL 5 PROBLEM LOOMS

As we have reported before, the problem when the new terrestrial TV station, Channel 5, starts broadcasting next year is that the transmission frequencies allotted are in the area of channel 36 to 39 - right around the channel used by most home computers and videos.

Part of the Channel 5 franchise is that it will pay to have engineers retune equipment in areas where its signals interfere with existing equipment. The problem is "which comes first - the interference or the cure?"

In some areas very few items will need retuning. In others almost every VCR and computer/games console will need to be adjusted. Are people going to have to wait weeks, or even months, before they can use their computer without TV ghosting? What if you can't be at home when the engineer wants to call? What if you move into an area after the retuning engineer has been around?

All these questions are beginning to worry some users, and so far Channel 5 and the Independent Broadcasting Authority are not giving any real answers.

CODEMASTERS SLAM MODERN GAMES

Leading British games software house, Codemasters, have launched a major attack on their own industry for producing games that do not contain good games-play.

Codemasters, who became famous for their Dizzy games on the Spectrum and other 8 bit machines, claim that many games produced now are bland cosmetics slapped onto poor games-play and rushed out to ride on the back of an over hyped B-movie licence. They stressed their commitment to games that will keep people entertained and excited, not just dazzled with flash graphics and never ending intro screens.

Codemasters seem to be concentrating on sports simulations at the moment, with Brian Lara's Cricket riding high in the charts. They intend to involve more 'personalities' in future games, because they can provide an 'expertise' that can turn a good game into a great game.

UK DISTRIBUTOR FOR SINTECH

German software company Sintech, some of who's software we reviewed recently, has appointed Trading Post as their UK distributor. Trading Post, of Victoria Road, Shifnal, Shropshire, TF11 8AF. Send them an SAE for a list of what is available and the prices.

WWW PAGE FOR SAM

SAM now has a presence on the World Wide Web at location:-

http://ourworld.compuserve.com/homepages/mogue

Quite a string there. Still it is run by Darren Wileman of Saturn Software if you have WWW access then give it a look over.

At the moment the site is still being built and there is little new material. However, Saturn have big plans.

YOUR NEWS

Obviously this is a bad time of the year for computer news. But this space could well have been filled with your news, if only you had sent it to us. There must be local computer clubs out there that want publicity, or perhaps you have heard of a new printer that has just hit the market.

Remember, you get three months extra subscription for every news item we print, so don't rely on others to send in an item you have seen - send it off yourself and earn our thanks as well.

The Editor Speaks

The big news this month is that **INDUG** is about to undergo some very big changes. Those of you with a long memory will already know that **INDUG** was formed in May 1987 to support the DISCiPLE disc interface and Spectrum users. It grew to include the PLUS D and then the SAM when it was launched in 1989. **INDUG** was, at its height, the largest user group of its type in the UK, and still is the largest Spectrum and SAM user group by far. But of course the heady days of the late 80s are gone and the number of Spectrum and SAM users has naturally declined (although not as fast as many predicted).

There are still many dedicated Spectrum and SAM users who will continue with their machines well into the 21st century and you can be assured that **INDUG** and ***FORMAT*** will be around for as long as you want us to be. However, we have to face the fact that a business that does not expand is hard pressed to survive, so the question we asked ourselves was "how can we expand without endangering our commitment to the Spectrum and SAM user?"

Well, from letters we received, and from a small survey we did last year, it was clear that the majority of ***FORMAT*** readers who were dropping out were moving to PC type machines - mostly because they needed them for work or for college/university and it was difficult for them to keep two machines on their desks at the same time. But, when they became involved in the PC field, one thing was missing - the sort of support that a user group like **INDUG**, and a magazine like ***FORMAT***, had given them when they used their Spectrum or SAM. The most frequent comment we heard was "Why is there not something like ***FORMAT*** for the PC users". Well now there is.

Now don't turn the page yet, I know that you are still dedicated to the Spectrum or SAM, after all you are reading this issue of ***FORMAT***, and don't worry - ***FORMAT*** is not going to change - it is **INDUG** that is going to expand. Keep reading and I will explain.

Look at it this way. If an extra 2,000 members join as a result of our expansion into the PC arena, then that will result in our fixed overheads (the office, wages, heat, light, etc) being spread over a greater number of subscribers - so the amount we have left to spend, on providing members with what they want, obviously goes up.

The first windfall from this growth will be that we can allocate money to have software specially written for the Spectrum and/or SAM which otherwise may have been considered uncommercial to produce. We know from letters and renewal forms that there are many items of software (and hardware for that matter) that you would like to see produced or resurrected for our beloved machines, well that takes money - and expansion is the only way to get more money for these sorts of projects.

By providing support for PC users, in the same way that we have for Spectrum and SAM users for so long, we will not be spreading ourselves thinner and we will definitely not end up neglecting our existing members. We hope that the expansion into the PC will enable us to visit more of the All Format Shows later in the year, this will get us to parts of

the country that it just has not been viable to go to in the past. The expansion will also allow us to increase our 'buying power' so that we can bring you more products at better prices in the future.

As with the early days of **INDUG**, we are looking to establish ourselves in the PC market by recommendation - we are not going to start advertising in every magazine (simply because we don't think we could handle the response). We want to achieve steady growth, in a sensible way that will allow us to do a good job. We are therefore looking to everyone who is already in **INDUG** to help us spread the word. In the past when we have had membership drives there has been a lot of people who have said "but I don't know any other Spectrum or SAM user" - well you can't say that when it comes to PCs. Every one of you will know several people who are using PCs, in the office, home, school etc. And every one of those is a potential new **INDUG** member. It does not matter if the machine they own is an 8086, a 286, 386, 486, 586, Pentium or anything in between. It does not matter is they are using MS-DOS, PC-DOS DR DOS, Windows 3x or Win 95 - there will be something for them now in **INDUG**.

The leaflets we are sending out (and if you want some to pass on to friends then just give Jenny a ring and she will send you a few) show new rates of subscription to **INDUG**. To be honest, this has been coming for some time. The price of printing, and just about everything else, has gone up in leaps and bounds in recent years. However, as a thank you for your loyalty, subs will not change for existing members until at least April 1997, and even when they do change we will give members plenty of warning so you can renew at the existing rates. Also, we are making early PC members a special offer anyway, and we are not about to charge you more than we do them.

The first issue of FORMAT PC is now nearly ready for the printers and will start going out as soon as we get the first batch of PC subscriptions processed. For those of you who want to get a copy in addition to your existing ***FORMAT*** we will give you details next month of how to place an order.

So the message is "**INDUG**'s expansion will benefit everyone". That is our promise and one we intend to keep.

OK, now down to other things. Remember that Saturday the 26th October is the date for the next Gloucester show, same venue as always. With this much time to plan we hope to see even bigger crowds than usual. It also gives us time to try and arrange some car sharing to help people get to Gloucester. We would like to hear from anyone who can offer lifts (on a cost share basis of course) and from anyone who needs a lift. Just list your name, location and telephone number on a piece of paper headed CAR SHARE, if you are offering lifts then say how many spaces you have. We will print a list in the August and September mags so people can get in touch with each other and arrange the trip.

September marks ***FORMAT***'s ninth birthday and we are planning a special supplement to include in the issue. The supplement will give names and addresses of all the companies, and in some cases individuals, who produce or distribute products and services of interest to Spectrum and SAM owners. If you know of anyone you think we may have missed, or if you yourself think you should be on the register, then give Jenny a ring right away and she will send you a form to fill in - no costs, its a free entry.

Anyway, that is all for this month, sorry to have taken up so much space this time.

Until next month.

Bob Brenchley, Editor.

SHORT • SPOT

YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

I can't cope with it. When writing June's issue last May I was frozen. Last week I was frozen again: this week I'm sitting here in nothing but my underpants. Just had a bit of a panic. Last night, around midnight, my Epson Stylus Color II ran out of ink. Well, it didn't really: but the black cartridge 'Ink Out' light started flashing, then went on. At this point, modern technology being what it is, the printer refused to print. I hadn't another cartridge, and cussing mightily, went upstairs and printed the work out on the laser printer. Fine, except that it does an extra line or two per page, so all my tables and pictures and things came out a mess. Anyway, tonight I brought home another cartridge (they're not cheap, are they), and stuffed it in. 'Ink Out' light stubbornly refused to go out; printer refused to print, Wase cussed...

Y'know, there's something in that old adage "If all else fails, read the instructions..." When I'd done so, I found that one had to go through a complicated series of button presses before installing the thing, and a further series after. Now all is well. There's a moral in this somewhere, for, as usual, I'm in a rush: Bob is coming tomorrow to pick up Short Spot, so it's got to be done. I think it's "Start Short Spot Sooner!!!" Now *there's* a thought!

Let's start with Mike Sleight of Doncaster, who was unfortunate enough to have sent me a couple of rather nice programs for the Spectrum some two years ago. Unfortunate, because they were never printed. Those who don't know me will not appreciate the chaos that invariably holds in this house; it is very possible that they were lost here, and are still lurking somewhere in my computer room. Equally, I might not have received them. A pity, for they're rather nice. Never mind, we'll feature them now...

Basically, these are routines that will take text in a long string and save you messing about with print statements to try and make it fit. The first routine sends it to the printer, the next one sends it to the screen The third routine prints nice windows, with shadows and suchlike, and the fourth combines the second and third to print your text in a nice little window. As Mike's letter explains, he first wrote them some ten years ago when he ran the 'Spectrum Unemployed User Group', for use in the Tape Magazine. Just one or two little problems. Essentially, they are all dual programs. The first bit is common, then there's a bit for the Spectrum, then a procedure for SAM. However, in Mike's efforts to be kind to us, he's overlooked the odd MODE or CSIZE command in the initial stages - Spectrum users beware. Let's have a look at them; we'll start with 'Textform-p' which sends text neatly to the printer.

```
 1 REM printer version - see
   lines 60010 and 60020 this
    has a line feed CHR$ 10
10 MODE 3: CSIZE 8,8
11 LET source$="This is a lit
   tle procedure that will en
```

```
     able you to print any text
      on screen, or to a printe
     r, and not have to mess ab
     out with PRINT statements
      trying to make it fit. "
  12 LET source$=source$+"All y
     ou have to do is put the t
     ext into a long string, or
      break it down into smalle
     r bits like this. "
  13 LET source$=source$+"Then
      call it using the procedur
     e 'form width' specifying
      the number of columns e.g.
      64,32,80 etc. The procedu
     re can be used in all mode
     s. "
  14 LET source$=source$+"It wo
     uld also be possible to us
     e it to read text files by
      substituting 'source$' fo
     r a string read from memor
     y in the form LET source$
     = MEM$(start to finish). "
  15 LET source$=source$+"Hope
      it's of some use to the re
     aders. Oh, for Spectrum us
     ers just change source$ to
      S$ and format$ to F$ and
      the procedure call to a LE
     T width=32 and GOSUB line.
      See lines 100 to 9040"
  16 form 64: REM ** try other
     values here **
  17 STOP
  20 :
  50 REM **** for Spectum users
      only *****
 100 LET width=80: GOSUB 9000
 110 STOP
9000 IF LEN S$<width+1 THEN PRI
     NT S$: RETURN
9010 FOR f=width+1 TO 1 STEP -1
9020 IF S$(f)=" " THEN LET F$=S
     $( TO f-1): PRINT F$: LET
     S$=S$(LEN F$+2 TO ): GOTO
     9000
9030 NEXT f
9040 RETURN
10000 REM **** end of Spectrum b
     it ****
10010 :
60000 DEF PROC form width
60010 IF LEN source$<width+1 THE
     N PRINT source$;CHR$ 10: E
     ND PROC
60020 FOR f=width+1 TO 1 STEP -1
60030 IF source$(f)=" " THEN LET
      format$=source$( TO f-1):
      PRINT format$;CHR$ 10: LE
     T source$=source$(LEN form
     at$+2 TO ): GOTO 60010
60040 NEXT f
60080 END PROC
61000 DEF PROC s: SAVE "textform
     -p" LINE 1: END PROC
```

Next, there's a similarly routine for printing text to the screen, called 'Textform-s'. Indeed, if you typed in 'Textform-t', you can reload it and modify it. However, to avoid confusions, here's the complete listing.

```
    1 REM screen version - see li
      nes 60010 and 60020 with n
      o line feed CHR$ 10
   10 MODE 3: CSIZE 8,8
   11 LET source$="This is a lit
      tle procedure that will en
      able you to print any text
       on screen, or to a printe
      r, and not have to mess ab
      out with PRINT statements
      trying to make it fit. "
   12 LET source$=source$+"All y
      ou have to do is put the t
      ext into a long string, or
       break it down into smalle
      r bits like this. "
   13 LET source$=source$+"Then
       call it using the procedur
      e 'form width' specifying
       the number of columns e.g.
       64,32,80 etc. The procedu
      re can be used in all mode
      s. "
   14 LET source$=source$+"It wo
      uld also be possible to us
      e it to read text files by
       substituting 'source$' fo
      r a string read from memor
      y in the form LET source$
      = MEM$(start to finish). "
   15 LET source$=source$+"Hope
       it's of some use to the re
      aders. Oh, for Spectrum us
      ers just change source$ to
       S$ and format$ to F$ and
       the procedure call to a LE
```



```
      T width=32 and GOSUB line.
       See lines 100 to 9040"
   16 form 64: REM ** try other
      values here **
   17 STOP
   20 :
   50 REM **** for Spectum users
       only *****
  100 LET width=32: GOSUB 9000
  110 STOP
 9000 IF LEN S$<width+1 THEN PRI
      NT S$: RETURN
 9010 FOR f=width+1 TO 1 STEP -1
 9020 IF S$(f)=" " THEN LET F$=S
      $( TO f-1): PRINT F$: LET
      S$=S$(LEN F$+2 TO ): GOTO
      9000
 9030 NEXT f
 9040 RETURN
10000 REM **** end of Spectrum b
      it ****
10010 :
60000 DEF PROC form width
60010 IF LEN source$<width+1 THE
      N PRINT source$: END PROC
60020 FOR f=width+1 TO 1 STEP -1
60030 IF source$(f)=" " THEN LET
       format$=source$( TO f-1):
       PRINT format$: LET source
      $=source$(LEN format$+2 TO
       ): GOTO 60010
60040 NEXT f
60080 END PROC
61000 DEF PROC s: SAVE "textform
      -s" LINE 1: END PROC
```

Next, a very short routine for SAM, as far as I can see, to print Windows.

```
   10 MODE 4: CSIZE 8,8
   20 LET space$=STRING$(32," ")
      ,shadow$=" "
   30 INPUT "forground (0-7)";fo
      re,"background (1-7)";back
      ,"height (20 max) ";h,"wid
      th (30 max) ";w
   40 LET back=back+8,x=INT (10-
      (h/2)),y=INT (15-(w/2))
   50 BORDER back: PAPER back: C
      LS
   60 PRINT AT x,y; PAPER fore;s
      pace$( TO w)
   70 FOR f=1 TO h-1
   80 PRINT AT x+f,y; PAPER fore
      ;space$( TO w); PAPER back
      -8;shadow$
   90 NEXT f
  100 PRINT AT x+f,y+1; PAPER ba
      ck-8;space$( TO w)
  110 PEN 17: PLOT (y*8),175-(x*
      8): DRAW (w*8)-1,0: DRAW 0
      ,-(h*8)+1: DRAW -(w*8)+1,0
      : DRAW 0,(h*8)-1
  900 WINDOW y+1,y+w-2,x+1,x+h-2
      : PAPER fore: PEN 17: LIST

 1000 DEF PROC c: WINDOW : CLS R
      #: LIST : END PROC
 9999 DEF PROC s: SAVE "new_wind
      ow": END PROC
```

Finally, a 'universal' routine to print text in windows - called textwindow.

```
   10 LET source$="This is a lit
      tle procedure that will en
      able you to print any text
       on screen, or to a printe
      r, and not have to mess ab
      out with PRINT statements
      trying to make it fit. "
   20 LET source$=source$+"All y
      ou have to do is put the t
      ext into a long string, or
       break it down into smalle
      r bits like this. "
   30 LET source$=source$+"Then
       call it using the procedur
      e 'form width' specifying
       the number of columns e.g.
       64,32,80 etc. The procedu
      re can be used in all mode
      s. "
   40 LET source$=source$+"It wo
      uld also be possible to us
      e it to read text files by
       substituting 'source$' fo
      r a string read from memor
      y in the form LET source$
      = MEM$(start to finish). "
   50 LET source$=source$+"Hope
      it's of some use to the re
      aders. Oh, for Spectrum us
      ers just change source$ to
       S$ and format$ to F$ and
      the procedure call to a LE
      T width=32 and GOSUB line.
       See lines 100 to 9040"
   60 wyndow
   70 form w-2
   80 STOP
   90 DEF PROC form width
```

West Coast Computers

West Coast Mail Order,
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Below you will find details of the full range of SAM hardware now available.

CODE	DESCRIPTION	PRICE
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W1020	SAM *élite* - 512K - Single Drive, 512K RAM, Built-in Printer Interface, Scart cable for direct connection to monitor or scart TV.	£199.95
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W1025	SAM Coupé - 512K - Reconditioned but with new modern style drive fitted, V3 ROM, new keyboard, 6 months full warranty. Limited availability.	£139.95
W1026	SAM Coupé - 512K - Reconditioned with single slimline drive, V3 ROM, New keyboard, 90 day warranty. Very limited availability. Ideal first step into the world of SAM.	£RING
	INTERFACES (work with both SAM *élite* and SAM Coupé unless otherwise stated)	
W1101	SAM Disc Drive Upgrade. Have a second drive fitted to your SAM *élite* or a replacement/second drive for your Coupé. Fitting and return postage included in price. Ring 01452-412572 for instructions on how to send your computer.	£79.95
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W1402	SAM Power Supply with TV Modulator.	RING

Prices valid until 1st October 1996. E.& O.E.

Ordering: Write your order clearly, state your name, full address and phone number and quote your INDUG number (if you are a member) as this helps to speed orders. Payment: Cheques and UK Postal Orders, should be made payable to FORMAT PUBLICATIONS.

Postage & Packing: Price includes UK P&P. European customers add 15% for delivery, other overseas customers please write for quote. Overseas customers can pay using the ***FORMAT*** foreign exchange scheme.

STOP PRESS

We would like to hear from a hardware designer with experience working with RAM to help in the development of a new version of the 1Mb RAM Pack for SAM. We would also like to have ideas from any SAM owners for new hardware projects.


```
100 IF LEN source$<width+1 THE
    N PRINT source$: END PROC
110 FOR f=width+1 TO 1 STEP -1
120 IF source$(f)=" " THEN LET
     format$=source$( TO f-1):
     PRINT format$: LET source
    $=source$(LEN format$+2 TO
    ): GOTO 100
130 NEXT f
140 END PROC
150 DEF PROC wyndow
160 MODE 4: CSIZE 8,8
170 LET space$=STRING$(32," ")
    ,shadow$=" "
175 REM  substitute line 185 f
    or 180 to set up a window
    25x20
180 INPUT "forground (0-7)";fo
    re,"background (1-7)";back
    ,"height (20 max) ";h,"wid
    th (30 max) ";w
184 :
185 REM ** let fore=2,back=7,h
    =20,w=25
186 :
190 LET back=back+8,x=INT (10-
    (h/2)),y=INT (15-(w/2))
200 BORDER back: PAPER back: C
    LS
210 PRINT AT x,y; PAPER fore;s
    pace$( TO w)
220 FOR f=1 TO h-1
230 PRINT AT x+f,y; PAPER fore
    ;space$( TO w); PAPER back
    -8;shadow$
240 NEXT f
250 PRINT AT x+f,y+1; PAPER ba
    ck-8;space$( TO w)
260 PEN 15: PLOT (y*8),175-(x*
    8): DRAW (w*8)-1,0: DRAW 0
    ,-(h*8)+1: DRAW -(w*8)+1,0
    : DRAW 0,(h*8)-1
270 WINDOW y+1,y+w-2,x+1,x+h-2
    : PAPER fore: PEN 15
280 END PROC
290 DEF PROC c: WINDOW : CLS R
    #: LIST : END PROC
300 DEF PROC s: SAVE "textwind
    ow": END PROC
```

So there's no excuse for untidy text now, is there! Many thanks, Mike.

Let's stick with the Spectrum, and three cheers, because for those who have a Spectrum +3, programs are few and far between, but this is one of them. Don't go away, though, if you've not got a +3, because Eifion Bedford of Abergele, Clwyd, North Wales, who submits a screen dump for an HP Deskjet compatible printer, includes all sorts of REMs and comments so that it will be almost universally usable. Now we can all have beautiful output! Having said that, the Epson Stylus can be easier to use if it behaves itself, since it will still take the standard Epson control codes, *and* drivers are also supplied for IBM PC- compatibles and Macs. But if you've got an HP, this is a fat lot of good to you. One of the reasons why +3 programs are so rare is that discs are like gold. Which is why this has been kicking around for some time: because it all needs typing in from a paper listing, and that takes time - much longer than straight text. Yvonne Buckingham, (now Yvonne Keal) of Woodpecker Discs tells me that the likelihood of their coming across any is minimal, so it's up to our readers to spot any old stock in shops, warehouses or sales and snap it up. The only way you'll come across these is as old software, so Peter and Yvonne tell me. So I'll soften my heart and type all this in...

```
 10 REM HP SCREENDUMP v1.0
 20 FORMAT LPRINT "U"
 30 LET e$=CHR$ 27
 40 LOAD "" SCREEN$
 50 LPRINT e$;"*75R";
 60 LPRINT e$;"rA";
 70 FOR a=0 TO 2
 80 FOR b=0 TO 7
 90 FOR c=0 TO 7
100 LPRINT e$;"*b32W";
110 FOR d=0 TO 31
120 LET address = 16384 + (2048
    *a) + (32*b)+(256*c)+d
130 LET  byte=PEEK address
140 LPRINT CHR$ (byte)
150 NEXT d
160 NEXT c
170 NEXT b
180 NEXT a
```

```
200 LPRINT a$;"*rB";
210 LPRINT CHR$ 12
```

That's really all there is to it, except that here are lots and lots of notes, so that you can adapt the routine to all sorts of situations.

Line 20: this command is a +3 specific one to tell the computer to use the parallel port and not to expand the Spectrum keywords into separate letters.

Line 30: CHR$ 27 is the ESC code used by most printers to tell the printer to expect a command next, rather than data to be printed.

Line 40: load in your SCREEN$ now.

Line 50: the ESC,'*','t',n,'R' is the command to tell the printer how many dots per inch to print at. On the Deskjet this can be 75, 100, 150 or 300

Line 60: ESC,'*','r','A' is the command to tell the printer to expect raster graphics. This means that there is no data compression; every byte sent is printed as dots or spaces according to its binary value.

Lines 70-120: the four FOR-NEXT loops determine the value of address in line 120. This reads each byte from the screen in order; first the current row, starting at the top, then the next one down. Due to the way the screen is laid out in memory, this isn't so simple!

Line 110: ESC,'*','b','32','W' tells the printer that the next thirty-two bytes sent to it are data to be printed, i.e. one row of pixels from the screen.

Line 130: peeks the value of the current screen byte and...

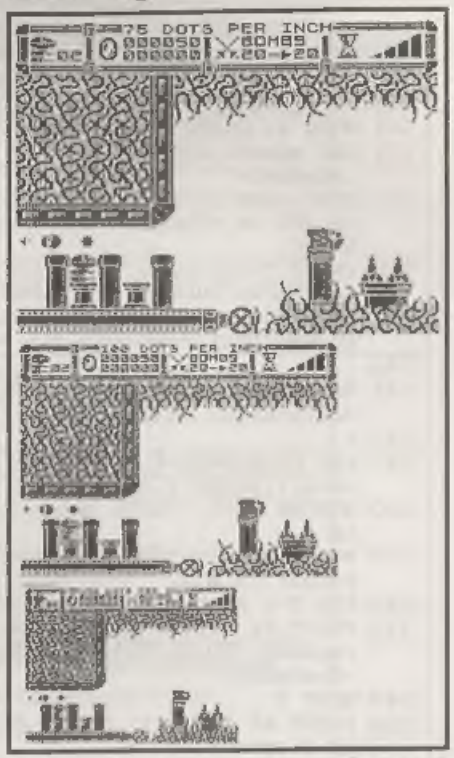
Line 140: sends it to the printer.

Lines 150-180: close the four nested loops.

Line 170: switches off the raster graphics

Line 180: CHR$12 is the code for a form-feed, i.e. the printer ejects the paper.

That's nice and explanatory, so anyone learning to deal with a printer can have a go. Moreover, it works: here's some of Eifion's sample screen dumps. Pretty good, eh? Many thanks, Eifion; sorry it's taken so long.



Next, there's yet another Spectrum snippet from Gary Pearman of Sword Software, Bristol, again from rather far back, because it got put on the pile labelled 'no discs'. My fault, really, since when I look, the program's so short that there's no need for one! This one's for anyone wondering how to read Datel's mouse interface. It works on any Spectrum, including a +3, which Gary has! Two +3 programs in a single Short Spot - is this a record?

```
 5 BORDER 7: PAPER 7: INK 9: C
   LS
10 LET X=IN 4929
20 LET Y=IN 1951
30 LET B=IN 1751
40 IF Y>=172 THEN LET Y=172
50 IF X>=252 THEN LET X=252
60 PLOT X,Y+2: DRAW 2,0: PLOT
   X+1, Y+3: DRAW 0,-2
70 GOTO 10
```

The status of the mouse buttons is stored in B and the possible values are as follows:-

255=No button depressed
254=Left button depressed
253=Right button depressed
252=Both buttons depressed.

Machine code users note that essentially, the mouse buttons toggle bits 0 and 1 of port location 1751.

Many thanks, Gary.

Next, a little item for SAM, for a change, from Matthew Galagher of Maidstone, Kent. But it shouldn't be difficult to convert to a Spectrum. Again it's discless, which is why it's been stuck for a long time. The inspiration came from a screen-saver - 'Mystify', which draws a quadrilateral (or two) and then moves it around the screen, bouncing off the walls and changing shape - and leaving a trail behind it! Matthew writes that he has a 'one shape' version of this, and also a three-sided version, the latter being noticeably faster than the former, but the fastest of all is this 'Bouncing Line'. In Bouncing line, the main thing Matthew finds interesting is the way the array that controls the erasure of the trail works. It seems so logical now, that Matthew really can't think how it worked before this was sorted out. The principle, as applied to this program is as follows.

The purpose of the program is to draw a line on the screen from co-ordinate x1,y1 to x2,y2. You then move the line by adding a1 to the x1 co-ordinate and b1 to the y1 coordinate (and a2 to x2 and b2 to y2. You then draw another line. If either of the lines touches the side of the screen, you reverse its direction by making the relevant a or b number (a1, a2, b1 or b2) negative. Once you've drawn a number of lines on the screen, you have a sort of moving thingi with a *tail*. Now you need to start deleting some of the lines from the tail, so that the display doesn't get too messy, but you want to erase the line that's been on the screen longest first. This is done with what Matthew calls a 'looped array', so you define an array with a size corresponding to the number of lines you want to appear on the screen at any one time (or the tail) and enter the co-ordinates of the first line you draw into position one in the array. Let's say, for example, you want a tail of ten lines. you add the co-ordinates of the second line into array position two, and so on, until you get to drawing the eleventh line. You've now run out of array positions to store new co-ordinates in, so to give you somewhere to put the co-ordinates of the eleventh line (and delete the oldest line first), you erase the line whose co-ordinates are stored in position ONE, then store the eleventh line in there and draw it on the screen. The twelfth line goes into position two and so on. The array looping is carried out by lines 150 to 210 in the attached program.

Matthew adds, cynically, that he hopes it's of interest, for he's certain he hasn't explained it very well: it's kind of hard to go back to the program you wrote ages ago when you forgot to put REM statements in to explain it to yourself! Let that be a lesson to you all! (And me, too - I'm just as guilty)!

Anyway, here's the program.

```
10 CLS : MODE 4
20 LET width=3: REM width is
   the width of coloured band
```

```
s in the pattern
30 LET tail=25: REM tail is t
   he length of the tail foll
   owing the line
40 DIM q1(tail),w1(tail),q2(t
   ail), w2(tail): REM create
    an array the size of the
   tail
50 REM define the starting po
   sition of the line
60 LET x1=59,y1=121,a1=5,b1=3
70 LET x2=184,y2=102,a2=4,b2=
   3
80 LET c=1, f1=0, col=9, e=0
90 IF x1+a1>255 OR x1+a1<0 TH
   EN LET a1=-a1
100 IF x2+a2>255 OR x2+a2<0 TH
   EN LET a2=-a2
110 IF y1+b1>173 OR y1+b1<0 TH
   EN LET b1=-b1
120 IF y2+b2>173 OR y2+b2<0 TH
   EN LET b2=-b2
130 LET x1=x1+a1,y1=y1+b1,x2=x
   2+ a2,y2=y2+b2
140 LET q1(c)=x1,w1(c)=y1,q2(c
   )=x2,w2(c)=y2
150 PEN col: PLOT q1(c),w1(c):
    DRAW TO q2(c),w2(c)
160 LET c=c+1
170 IF c=tail+1 THEN LET c=1:
   LET f1=1
180 LET e=e+1: IF e=width THEN
    LET e=0: LET col=col+1
190 IF col=16 THEN LET col=9
200 IF f1=0 THEN GOTO 90
210 PEN 0: PLOT q1(c),w1(c): D
   RAW TO q2(c),w2(c)
220 GOTO 90
```

Many thanks, Matthew.

Next, we return to the Spectrum with a note from C.A.Walford of Wood Green, London. He writes that although this ground may have been covered some time in the past, he is a relative newcomer to **INDUG**, and others, too, might not know about this quirk of WordMaster and the pound sign (£). In WordMaster, simply pressing the SYMBOL SHIFT key with the X key will merely produce a sort of backwards inverted comma, a minor but irritating loose end. One solution is to redefine the hash (#) symbol, assuming you're not actually typing out programs in WordMaster!

Here's how to do it - step-by step. First load WordMaster from disc or tape. Press [C] to Create a File (FILE HANDLING menu). Name the file "pound". Press ENTER.

The file name will, of course, appear in the status section (the yellow bars) at the top of the display. press ENTER again, and proceed to the next stage. Press the TRUE VIDEO key and another yellow bar should appear. Type in the following in lower case:

def

and then press the space-bar once.

Now press the GRAPH key and then press 1. 1 should appear in inverse video. Immediately type in the number 156 (156 should appear in true video). Now press ENTER, which will bring the cursor to the page area. Move the cursor to where you want the pound sign to appear and press the GRAPH key once more, and then press 1 (which will appear in inverse video). finally, add the sum involved.

Press INV VIDEO to get into print mode and then the PRINT P key twice, and the sum is revealed. The PCG DTP pack is available through ***FORMAT*** (see the Readers Service Page) and Mr Walford loves it!

And that's really all there is for this month. Please keep all your snippets coming to me; without them I can't put a column together. Please send them to:-

John Wase,
Green Leys Cottage,
Bishampton,
Pershore,
Worcs,
WR10 2LX.

See you next month.

Alternate Character Sets IN WORDMASTER

By:- George Slougas.

This is a follow-up article to the ones published in the February and May issues (Vol.9 N°s 6 & 9) on using alternate printer character sets in Tasword 2 and in WordMaster. It was a really nice (and strange!) feeling to see my articles and name published! This has spurred me on to make a great improvement to the WordMaster conversion. Let me explain.

Up to now, each time you enter GRAPH 7 in the text, for the purpose of altering the character set, it caused the printing of a 'space' character in the actual printing. Although this didn't usually ruin the '>fill' justification, some times, and especially when there were long words in a line, the spaces that WM entered to fill the line were not allocated in a pretty way. The 'cure' (sometimes) was to use the GRAPH 7 as a 'space' itself as well, omitting any space before or after it.

Also, on rare occasions the '>fill' justification was ruined when the GRAPH 7 was the first or the last character in a line. When it was the first one you could use the GRAPH DEL character just after it and it worked; but when it was the last one the only way was ...to avoid it.

Anyway, I've now worked out how to make the GRAPH 7 be treated just like the other control characters by the WordMaster, like the one for italics. So it isn't converted to 'space' when printed; it just vanished and the '>fill' justification is perfect in every case.

Another bonus is that you can now alter the character set within a word, without the problems of entering 'spaces' in the word (and have to use the GRAPH DEL again). So I think my conversion works perfect now, and this is because I got deeper into the logic of WordMaster routines. (Unfortunately I can't make such an improvement to Tasword 2. This is because Tasword 2 can't even handle its own control codes correctly.)

To save space I'm only giving you the altered lines from the Basic listing in my previous article. Alter lines 11 to 18 to:-

```
11 LET g=31: REM or any from 2
   5 to 31, for GRAPH 1 to GRA
   PH 7
12 FOR n=23760 TO 23839: READ
   m: POKE n,m: NEXT n
13 DATA 48,9,254,g,40,26,254,1
   0,195,233,218,229,245,58,25
   1,92,254,0,40,9,241,38,93,1
   11,126,225,195,244,218,241,
   24,249,58,251,92,238,1,50,2
   51,92,195,245,218
14 DATA 1: REM or 0 for printi
   ng normal chr$ set at first
15 DATA 230,127,254,g,32,1,21,
   254,32,195,67,218
16 DATA 0,0,0,0,0,0,0,0,0,0,
   0,0,0,0,0,0,0,0,0,0,0,0: 
   REM these 24 zeros are unus
   ed bytes
17 REM the rest of the program
    copies the normal chr$ set
    in     the table from 2384
   0 (=23808+32) to 23935 (=23
   808+127) and     then asks
   for your modifications.
18 FOR n=32 TO 127: POKE 23808
   +n,n: NEXT n
```

The rest of the program lines need not to be changed. What you have to do now is RUN the new program and proceed as in my previous conversion.

As you may see, my new routine over-writes the first 32 bytes (CHR$ 0 to CHR$ 31) of the alternate character set, but it doesn't matter at all, as these bytes are not printable characters and are handled by WordMaster anyway (and not by my routine).

Now, all you have to do is to modify the WM m/code a little more. Last time I gave you 4 POKEs. This time you have to add these ones, before re-saving it:-

```
POKE 55871,195: POKE 55872,252:
POKE 55873,92: POKE 55874,0
```

I hope that you find this improvement worth making, as it's a pity to have wrong justification or extra 'spaces' added, when WordMaster has already, in its own machine code, routines that if cleverly used can avoid these nasty problems (everyone who has used Tasword 2, can understand!).

"It was a mistake to ask the Lone Ranger to cross your palm with Silver!"

Writing for FORMAT

We feel the one thing that makes ***FORMAT*** so good is the fact that it is written by enthusiasts. We don't employ staff writers to churn out a set word count each month, on subjects they know little or nothing about, instead we turn to the real experts - our readers.

We always need more articles, in order to enable us to get the right mix each month so there is something for all tastes. And this is where YOU come in. Even if you have never considered writing an article before - now is the time to start. We need articles, from half-page fillers to long series and all sizes in between.

Now don't start saying you are not an expert because you don't have to be. The simple fact is that every one of you reading this article will know something that others would love to hear about. Some of you will use your computers for unusual things. Some will have made adaptations to commercial software that many other users will either be interested in or will be inspired by.

And please, don't claim your writing abilities are not up to it - that is what we are here for, to edit and guide you. Over the years many people have written for ***FORMAT***, some of whom did not have the benefit of English being their first language - but that didn't stop them and you should not let things stop you either.

If nothing else, how about typing in a program from an old magazine like Your Computer or ZX Computing. Provided you credit the original author and magazine we will still consider it and remember that most users will never have seen these old magazines because they stopped publishing years ago.

Come on... Lets see what you can do.

BASIC PRINTING

A Look At On-Screen Printing By:- Ken Elston.

One of the first things most people do with a computer is to get it to print something on the screen. Indeed, without the printing of information to the screen, very few computers would be of much use to us. But there is much more to printing to the screen than first meets the eye and in this article I will try to uncover some of the little secrets. To do so, I must start right at the beginning, so please excuse me if you find parts of this article a little too simple for your current skill level. Please remember, we all had to start somewhere and, as I do not know each of ***FORMAT***'s readers individually, I have to start somewhere so it has to be at the beginning.

So, here we go, all the facts you need to know about writing to the screen - at your fingertips. In each case I will give you the command/function followed by the key-press needed to use it in 48K mode (in 128K mode just type the command in long-hand). All that I have to say here will apply to the SAM range as well, although for some commands to work exactly as they are here you may need to type MODE 1 before you start.

PRINT [P key]

The main power-house command, around which (almost) everything else turns.

PRINT prints a string of text and/or numbers to the current print position on the screen. Items to be printed may be numeric or string variables, text (enclosed within quotes), numbers or controls (which we will deal with later). Items must be separated by a semi-colon, or (to move the print position) a comma or apostrophe.

Let's look at a few examples.

```
10 CLS
20 PRINT "This is a test"
30 PRINT 123;"ABC";456
40 LET A=16: LET B=5
50 PRINT "A=";A,"B=";B'"A+B=";
   A+B
60 PRINT "What is this ";
70 PRINT "going to do"
80 PRINT "That is all for now"
```

Line 10 clears the screen and at the same time resets the current print position to 0,0 (the top left hand corner of the screen).

Line 20 simply prints the message enclosed in the quotation marks on the first line of the screen.

Line 30 should print 123ABC456 on the next line. You see how the semi-colon works? It stops one item of print and preserves the print position. If it is at the end of a line, as in line 60, then the next print statement encountered anywhere in the program will start printing at the next print position on the same line of the screen.

Line 40 sets up some variables for line 50 to print. Notice what happens after the value of B gets printed.

AT x,y [Sym Shift I]

Putting AT within a PRINT command moves the printing position to line x,

column y (where 0,0 is the top left-hand corner of the screen and 21,31 is the bottom right. AT has to be within a print statement, you can't us it on its own.

Try this example:-

```
10 PRINT AT 10,0;"Half way"
20 PRINT AT 21,0;"Bottom Line"
30 PRINT AT 0,0;"THE TOP LINE"
```

In this we have always printed in column 0 but you could change that if you wanted to see the results. You can have more than one AT in a print statement so this would be valid:-

```
10 PRINT AT 6,7;"Rules OK!";AT
   6,0;"FORMAT"
```

TAB x [Extn Mode P]

As with AT, TAB can only be used within a PRINT statement. It moves the current printing position to column x by printing spaces.

If you use TAB 0 then you move to the start of the next line, causing a scroll if you are already on the bottom line of the screen. However, you would save space by using the apostrophe (') to do the same job. Similarly, using the comma (,) in a print statement is the same as saying TAB 15 (if the current print position is less than 15) or TAB 0 (if the current print position is greater than 15).

Play around with TAB a little and you will soon get the hang of it.

PAPER x [ExtnMode C]

Change the default paper colour for all future printing to x. Valid colours are the normal 0 to 7 (see Table 1 for the list) plus 8 (which is transparent - meaning that the existing colour of the location on screen is used) and 9 (where the paper is set as a contrasting colour to the current INK).

Paper can appear in one of two places. As a command statement, that is something like:-

```
10 PAPER 4
```

and PAPER can also appear within a PRINT command like this:-

```
20 PRINT "The paper colour ";
   PAPER 5;"changes"
```

However, an imbedded PAPER command like the one above only applies to that PRINT statement. The next print statement the program comes across will revert back to the attributes set by the normal PAPER and INK commands.

Within a PRINT statement you can change PAPER colour as often as you want.

SPECTRUM COLOURS

Colour N°	Colour
0	Black
1	Blue
2	Red
3	Magenta
4	Green
5	Cyan (light blue)
6	Yellow
7	White

Table 1.

INK x [ExtnMode X]

This sets the default ink colour in just the same way as the PAPER command sets the paper colour. Again this can either be a command (setting the default ink colour) or it can be imbedded so that it sets a temporary ink colour.

FLASH x [ExtnMode V]

Turns flash on if x=1, or off if x=0. If x=8 then it uses the existing flash setting for the screen location. Once more this

can be a command on its own or it can be imbedded within a PRINT statement.

BRIGHT x [ExtnMode B]

Guess what? Yes, you got it, BRIGHT turns bright on (x=1) or off (x=0) or uses the existing bright setting for a screen location (x=8). And yes, you've guessed it again, BRIGHT can be a command or imbedded.

OVER x [ExtnMode N]

Turns OVER on when x=1 or off when x=0. When OVER is switched on the printing (or plotting) of the new pixels is XORed with what is already on the screen. If either the old pixel or the new one is INK (but not both) then INK will be printed. But if both old and new are PAPER, or both INK, then PAPER is printed. This allows characters to be printed 'on top' of each other. Try this little program:-

```
10 PRINT AT 0,0;"TESTING 123"
20 PRINT AT 0,0; OVER 1;"_____
   _____" : REM that is 11 un
   derline characters between
   the quotes
```

This printed the text and then underlined it, often a much easier way of doing it than trying to use PLOT and DRAW to get the line.

OVER is almost always used as an imbedded control within a PRINT statement, although it can be used as a global command in the same way as PAPER, INK, etc.

INVERSE x [ExtnMode M]

Turns inverse on with x=1 and off with x=0. When INVERSE is on the current settings for PAPER and INK are swopped over, that is PAPER is printed in the current colour setting for INK and vice versa. This is a useful way to highlight words or letters on the screen. Try this:-

```
20 PRINT INVERSE 1;"P"; INVERS
   E 0;"O"; INVERSE 1;"R"; INV
   ERSE 0;"M"; INVERSE 1;"A";
   INVERSE 0;"T"
```

Run it and see what happens, then add the following lines:-

```
10 FLASH 1
30 FLASH 0
```

And run the program again. Nice effect is it not? Really grabs your attention? Try adding a few colour commands to it as well and it really comes to life.

BORDER x [B key]

Although not strictly anything to do with PRINT, the BORDER command is very often involved in a program to add extra colour to the screen. It changes the screen's border colour to x, (in the range 0 to 7).

PRINT #0 [P key]

This command PRINTs in the bottom two lines of the screen (use carefully).

Normally you are not able to PRINT in the bottom two lines of the Spectrum's screen, as this area is reserved for use by prompts and the Basic line editor. However it is possible to print there by adding a few characters to the PRINT statement.

This area is actually an independent print window. To direct print to it, rather than to the main screen, use:-

```
10 PRINT #0;"Text"
```

You can clear this part of the screen independently too, with:-

```
20 INPUT,
```

This part of the screen does not behave in the same way as the main screen though, and some experimentation is

necessary. For one thing, you are not limited to the two lines that are normally in the lower screen. If you print more the window expands, scrolling the main screen up out of its way.

You can even use PRINT AT, but remember that the lower screen does not just continue the line numbering of the upper screen, but starts afresh at zero. Try this:-

```
10 BORDER 2
20 PRINT #0;"TEXT";AT 12,0;"MO
   RE TEXT"
30 PAUSE 0:REM - TO GIVE TIME
   TO SEE
40 INPUT,: REM CLEAR LOWER SCR
   EEN
50 PAUSE 0
```

The BORDER command is just to make the lower screen a different colour so you can tell that the print is in fact appearing in the lower screen. The PAUSE commands will wait until a key is pressed

---

Ok, that has dealt with the commands, now let us look at some of the background information that may help you get even more from your printing

COLOURS

We have already looked at the PAPER and INK commands to change the colours that the Spectrum prints on the screen, but did you know that there is another method, one which even allows you to change the colours of parts of your program listings? Well you can in 48K mode.

The technique can be confusing because it uses invisible control characters which do not show when you are editing a line. Furthermore, there are two characters for each colour change, so when you try to delete them you can get strange effects if you only delete one

Entering the colour controls into a line is easier than getting them out again. First you select Extended Mode, then you press a number key, either with or without Caps Shift (not Symbol Shift).

The effects that you can get are as in the chart below. Note that any change you make will continue right past the end of one line into the rest of the listing unless you change it back at the end. Be careful, if you set both INK and PAPER to the same colour, the whole listing could become invisible!

IMBEDDED COLOUR CONTROLS

Number	Without Caps Shift	With Caps Shift
1	Paper Blue	Ink Blue
2	Paper Red	Ink Red
3	Paper Magenta	Ink Magenta
4	Paper Green	Ink Green
5	Paper Cyan	Ink Cyan
6	Paper Yellow	Ink Yellow
7	Paper White	Ink White
8	Bright Off	Flash Off
9	Bright On	Flash On
0	Paper Black	Ink Black

Table 2.

And that's it for now. My thanks to Bob for shouting at me enough that I finally got round to writing another article for *FORMAT*. I will try to get some more down on paper as soon as the kids will let me get near the computer again

MORE New Tricks For *The Secretary*

Part 1

By:- Rev Tony Kinch.

When the SAM Coupé was first produced, nine pin dot matrix printers were standard for most users. In fact SamCo listed the Citizen 120D+ in its catalogue.

The 24 pin was beginning to come out, but was beyond the reach of most ordinary users. The only viable alternative was the slow (and noisy) daisy wheel printer which did, however, produce very good copy for those specifically needing high class correspondence or reports.

I had standardized on the 120D+ which I had installed in two Church offices - one attached to my Spectrum and later to my SAM, and the other linked to an early Amstrad PC. For over six years these printers have done sterling service, with a very acceptable NLQ for letters and reports.

Technology moves on, however, and in the last year or so, with laser, bubble jet or ink jet printers becoming more common, the quality of my 120D+ produced copy was beginning to look second rate. I was able to get an Epson Stylus 400 with sheet paper feeder for under £200, and started to look at ways in which print quality could be improved.

The Stylus 400 default NLQ print is 'Courier', and files produced for use with the 120D+ printed perfectly satisfactorily on the new printer. The default line pitch required to be changed from 12 (72nds of an inch) to 10 (60ths of an inch) but, apart from that, no changes were needed to get a typewriter face print of considerably better quality than the 9 pin printer would produce

So far, so good. But it did seem a pity to be restricted to NLQ similar to that which was produced on the older printer, or to a sans serif draft print - even if both were of a far higher quality than it was possible to produce before. The Stylus 400 has six type faces installed as standard: Courier, Prestige, Roman, Sans Serif, T Roman and H Sans serif.

The first two (Courier and Prestige) operate in a very similar way to the NLQ on the 120D+ and will produce pica, elite, condensed and enlarged print at standard pitch together with double-height, subscript and superscript print. Similarly, all these sizes are available in draft sans serif print.

The final four are 'scaleable': that is they can be produced in print sizes from 8 point to 32 point in 2 point steps. (A 'point' is an old printer's term for 1/72 of an inch: thus 8pt is 8/72 of an inch high through to 32pt at 32/72 of an inch.) They are also designed for 'proportional' printing (that is each letter takes the width required to look right as in 'proper' printing, rather than a standard fixed width as in typewriter printing). *The Secretary* is not set up for scaleable fonts or proportional spacing, and that is where the problem begins.

The Secretary, along with most simple word-processors (e.g. Tasword), forms the page width by a defined number of

characters That is fine when each letter is the same width, but when letters are different widths, through either proportional or scaleable fonts, a different approach is required. In consequence many modern word-processors have become more complex, and require much more memory.

Steve's Software's Word_Pro works in this modern way and defines page size in millimetres rather than columns Because this program works only with its own fonts, rather than those built into the printer, it is very slow The print quality is superb and compares well with anything I have been able to produce on a PC with a laser printer. I use it for jobs that I can leave printing out overnight. If the printing can be speeded up still more it will prove to be a very good program. In the meanwhile a fast, reliable program making use of the built-in fonts in modern printers is required

Fortunately *The Secretary* has the facility to define printer control codes from menus, and the ability to load different printer control code files through the MISC menu. This makes it possible to achieve a reasonable working compromise in order to make best use of the printer facilities. Similarly, because much of the main operating program is written in Basic it is possible to incorporate changes into the menus without too much difficulty.

I have therefore added some new printer control code (PRN) files and made some small modifications to the Basic program in order to make them easy to operate. Of course, what I have done is not the last word. There are many ways in which lining up *The Secretary* for an ink jet or a bubble jet printer can be achieved. My printer is the Epson Stylus 400, but what I have done should work on any printer which is fitted with Epson P2 control codes, although it will be necessary to check the manuals of other printers to make sure that control codes, especially those calling up different fonts, are correct for those printers.

My chosen method has been to group the six fonts built into the printer into three pairs: Courier/Prestige, Roman/Sans Serif and T Roman/H Sans Serif. Each pair of fonts has its own "PRN_" file. Draft print is obtained by use of the 'economy' button on the printer control panel.

Thus there are four "PRN_" files

"PRN_codes" is as supplied with *The Secretary* and is left untouched.

"PRN_couri" contains the small alterations to the standard file, and is described at the end of this article. With these minor alterations the Secretary will work in draft and LQ in both fonts with the ink jet printer, together with Roman and Sans Serif fonts in non-proportional, non-scaleable form.

"PRN_roman" is set to deal with 'roman' and 'Sans Serif' fonts. It allows for justified copy in 10pt size in order to give a straight right-hand margin. 8pt, 12pt, 14pt, 18pt, 24pt and 30pt sizes are also available for enhanced document appearance, but will not produce a justified right-hand edge (although by use of a double control code 12pt can be made to produce justified pica text). The file defaults to the Roman font on loading, but by use of an embedded control code it can call up the Sans Serif font and a further embedded code will revert to the Roman font. Thus mixed Roman/Sans Serif texts are possible.

"PRN_T_rom" defaults to 'T Roman' (similar to Times New Roman) on loading, with 'H Sans Serif' (similar to Helvetica) as the alternative font. Because these are fully proportional there is no current way that they can be made to produce fully justified copy with *The Secretary*, but you can produce very acceptable print with a jagged right hand edge The print sizes and embedded printer control codes are almost the same as for "PRN_roman", although there are some small differences in the line pitch.

In Part 2 I shall give the code listings for the files "PRN_roman", "PRN_T_rom", together with details of how these may be accessed from the standard *Secretary* program.

Following that, in part 3, I shall give the program modifications which allow these fonts to be called from menus in exactly the same way as other menu functions within *The Secretary*, and a routine to allow for vertical positioning of the text on the paper.

Finally, part 4 will give details of how to create new 'help' screens for the new code files.

Setting the Epson Stylus 400 for Courier/ Prestige

Note: If you have a Cannon printer, these amendments may not be needed, because the Cannon printers have a facility for line pitch in 1/72 steps. Check your printer manual for the control codes for the fonts

1. Format a new disc and copy your DOS and *The Secretary* programs on to this new disc as described on page 1 of the *The Secretary* User Guide. **Under no circumstances should you make any mods to your original disc in case something goes wrong.**
2. Load the new disc, and at the first menu press 'P' (for Printer control codes).
3. When the codes come on screen, use the down cursor key until 'Optional OFF' is highlighted. Press F0 and then enter 27 (F0) 65 (F0) 10 (F0 F0) .
4. Press the right cursor arrow once in order to bring on screen the second page entitled "Text Embedded Printer Control Codes" Use the down cursor key until the word 'Courier' is highlighted Press F0 and then enter 27 (F0) 107 (F0) 2 (F0 F0).
5. Use the down cursor key again until 'Orator Caps' is highlighted. Then press F0 and enter 27 (F0) 107 (F0) 3 (F0 F0).
6. Repeat step 5 until 'Orator Lower' is highlighted, and then set the codes in the same way to 27 107 0.
7. Use the right cursor key once more to bring up the "Start of Document Printer Control Codes". Use the down cursor key until 'Line Spacing' is highlighted. Press F0 followed by 27 (F0) 65 (F0) 10 (F0 F0).
8. Finally, press the 'S' (for save) key. You will be asked whether you wish to save under the default filename "PRN codes" or a new filename. Press N for new filename, and at the prompt "Enter Filename (6 CHRs max) PRN_" enter 'couri'. Your new "PRN_couri" file will then be saved.

To use this new file to print documents, on the main *The Secretary* menu bar press 'M' for MISC followed by 'P' (or use the cursor keys) for LOAD PRN CODES. Load "PRN_ couri". Use the following embedded control codes from the CHR menu on the Menu Bar: 'C': Courier 'S': Sans Serif 'O': Prestige '.' non-proportional Roman. At the PRINT menu, set line spacing to 10. The enhanced fonts are accessed by use of 'N' (for NLQ). Then print in the normal way

Back soon with part 2.

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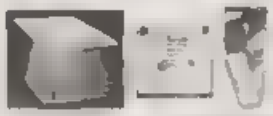

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A GENIUS AT WORK

By:- George Siougas.

I've seen in the *YOUR LETTERS* column a lot of people asking about Datel's GENIUS Mouse. Please let me sort some things out. Firstly about software compatibility and then hardware.

GENIUS Mouse is the *only* mouse which is compatible with ART STUDIO (and not the AMX one). This is because ART STUDIO only supports the Kempston Mouse and the GENIUS one is totally Kempston compatible.

ARTIST II however can support both the AMX Mouse and the Kempston/ GENIUS one.

Before I bought my DISCiPLE I had used the GENIUS Mouse a lot, but with the DISCiPLE connected, you can't even boot the GDOS (the keyboard locks etc). This is because their ports clash, that is there is something in both interfaces that has the same 'address' and so they fight each other whenever that address appears from the Spectrum. That's why the DISCiPLE version of the Kempston Mouse had its port re-addressed (and that's why that version is not compatible with ARTIST II and ART STUDIO (although there were some POKEs for the latter - see *FORMAT* Vol.1 N°12). So the best you can do with DISCiPLE is loading the ARTIST II or ART STUDIO from tape with the GENIUS Mouse attached behind the DISCiPLE and use the tape as storage for loading/saving screens as well - if you don't boot the GDOS everything works perfectly.

Last month a friend of mine ordered the PLUS D from Datel. So I borrowed it, just to check it with my mouse. I used a simple hard Y-connector (still available from B.G. Services). The problem with that connector is that the edge which goes up is too short for peripherals like GENIUS Mouse which have their connector in a 90 degree angle from their main body. So the main body hits on the keyboard (I've got a 48K Spectrum+) and its connector can't reach the Y-connector. What I did was to try it with my rubber key 48K Spectrum, whose keyboard is much thinner. That was OK so I tried to boot the G+DOS. Agony, but everything worked fine.

The next step was to test the software. I loaded ARTIST II, then the disc converted version of ART STUDIO (converted by ARTCON from ***FORMAT***). Everything worked *PERFECTLY*!

So I exchanged my DISCiPLE with my friend's PLUS D! (He was not interested in mouses and preferred the DISCiPLE too). After a month of use I can assure you that there is no problem with GENIUS Mouse and the PLUS D. On the contrary it's a great pleasure to work with the mouse, design screens, select the FILE options and save or load from disc; all these things with mouse! (Do I have a Macintosh, or what?). The only time you have to touch the keyboard is to input the filename. So why they all used to say (including you dear Bob and DATEL too!) that DATEL's mouse and

PLUS D can't work together? After all, we all know (we should, actually; it is written in *FORMAT* Vol 1 N°8 by John Wase's review) that although the DISCiPLE version of the Kempston Mouse was different than the standard one, the PLUS D version was the standard one. And the GENIUS Mouse is exactly compatible with the standard version of the Kempston Mouse

Well, I found out why. As I wasn't so happy with my rubber key Spectrum, I bought a ribbon cable (from B.G. Services again) to connect its one edge to the Y-connector and the other to the mouse interface, so as to use all these with my Spectrum+. Although there was not any ribbon connection between the PLUS D and the computer, but only between the mouse and computer, the whole system wouldn't work properly (the screens that I loaded were corrupted; fortunately not on disc - just on my monitor).

It seems that the GENIUS Mouse can't work on a ribbon cable; just like the PLUS D. By the way, my ZX Interface 2 (joystick interface) can. The solution to my problem: Fortunately the edge connector of the GENIUS Mouse interface is distant from the PCB with quite long tough wires. So I twisted those wires carefully and now the edge connector forms an angle of about 170-180 degrees from the main body of the interface. Thus the interface can now sit upright on the Y-connector with no ribbon cable between. Everything works perfectly again, but now with my beloved Spectrum+.

If you try something like this, be careful not to make the wires touch each other. You should take the PCB out of its cover and also help the twisting by pushing the tough (really!) wires a little with a screwdriver to avoid dislodging from the PCB. Then you can place it in its cover again. The other way of course is to buy a GENIUS Mouse interface with through-in port, but I think DATEL doesn't have those any more.

I also have to say that the GENIUS Mouse worked OK with both my ZX Interface 1 and Microdrives, and my old OPUS Discovery (after giving the command FORMAT "j";0 to turn off the built-in Kempston joystick interface; after all the GENIUS Mouse interface has got a built-in Kempston joystick interface, and that's why you have to turn the Discovery's off (to avoid port clashing). Of course ART STUDIO can't load/save from Microdrives or Discovery in the same way that the ARTIST II can (which handles these operations sensibly from Basic.)

One last thing. I 'm 99% sure that the GENIUS Mouse and PLUS D can work with a 128K or a +2 as well. As soon as I test this (I have to borrow a +2), I 'll let you know.

8BIT

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From: Brian Watson
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ON THE C FRONT

By:- Carol Brooksbank.

Things have been moving in the C world recently, with two new issues from Fred Publishing - the C upgrade disc and SAM Vision

I think there were a few people around who had rather unrealistic ideas about what the upgrade disc would bring, and hoped that it would implement doubles and floats. That was not so, and was never intended to be so. SAM C is, and remains, a small C, which does not have all the features of a 'full' ANSI standard C. To change SAM C to one of the higher versions would be a major programming operation, only justified by mega sales of the present version, with a lot of commercial programmers using the language to write software. It could happen, but if it does it is a long way down the road.

The purpose of the upgrade disc was to clean up some bugs and to implement some of the routines which were listed in the handbook but not present in the original coding. And this is what the upgrade does. For instance, the minor bug which stopped most of the functions in CTYPE from working, has been corrected.

Blocks and window have been added to CONIO, though caize is still not there. Pen and paper in GRAPHICS now set permanent colours which printf will respond to, and circle has been added. There is also a new library, MISC. Some of its routines appear to be duplicates of ones which are also in GRAPHICS. For instance, circle is in this library too, and there are screen colour routines setbkcolor and setcolor which, as far as I can tell, behave exactly as do paper and pen from GRAPHICS.

There are some new routines in MISC, too. Outtextxy, called with screen line/column co-ordinates and a pointer to a string, prints the string starting at the co-ordinates. Mouse routines are provided, to detect mouse presence, mouse x,y co-ordinates and which button, if any, is pressed. I had difficulty with the test program on the disc which demonstrates some of the MISC routines. Although my mouse was connected and working with the C editor, the program reported "MOUSE NOT DETECTED". The notes in the C listing said "MOUSE DRIVER TO BE ADDED", so I tried loading the mouse driver which comes with the mouse, but although the C test program then behaved as though it knew the mouse was there, it also crashed. So I suspect that all is not quite well with the mouse routines. MISC also includes blitz, (like the Basic command), and routines for detecting the screen mode, calling a user machine code routine, and setting the draw OVER modes 0-3, as described in the SAM handbook

In addition to the improvements in the functions, an assembler, ZEUS, has been added to the package. In the original C version, after compiling your C program, you were able to view its assembly

language listing. But view it was all you could do. Now, when you select CODEVIEW at the BROWSE option, you find yourself in the Zeus assembler, with your source code in its editor. You can now edit the source code, if you wish. If you make changes and assemble it, you can run the code and your changes have been implemented. When you go back to the C editor, RUN will still call your amended code. On returning to the C edit screen, your original C program is there, and that has not been changed. If you recompile it you will lose the amendments you made to the source code in the assembler. If you want to make them permanent, you must change the C listing too.

You can use the assembler independently of the C editor. It is compatible with Comet and has all the features you would expect in a good assembler. I had some difficulty in getting back from the assembler to the C editor. I tried pressing ESC, RETURN and Q (for quit), at the Zeus menu, but nothing worked. I then decided to reset SAM and start again, by using QUIT from the Zeus file menu. (The Zeus file menu looks exactly like the C file menu, on which QUIT resets the computer.) That was how I discovered that QUIT on the file menu is what returns you from Zeus to C.

All the upgrade facilities (except the mouse routines, and I may have been doing something wrong) seem to work well. I did not get any notes, handbook addenda, etc. to describe the new routines, which would have helped. I am not sure whether that was because I was sent a review copy. Review copies are often unaccompanied by the relevant paperwork. But if there are no accompanying notes, some should be written as soon as possible, because I found myself constantly loading the library files to try to find out what is going on and how things work. For instance, it is not until you look at the listing for outtextxy(int x, int y, char *s) that you discover that the first two parameters are not x,y co-ordinates but line and column numbers. The routine is a shorthand way of moving the printing position and then printing the string. But, paperwork apart, the upgrade is a successful tidying up of SAM C, with extras.

SAM Vision is a new collection of library routines, but it is more than that. You do not have to load C from the original disc because SAM Vision has most of the STDIO routines built into its own runtime file, and the libraries are included on the disc. There are also a number of other routines and procedures added.

These additions make this a very non-standard C. You will not get any help from a C textbook to show you how the new routines work. They are all SAM-specific. So although this is a stand-alone version, don't think of this as a separate program to buy as an alternative to the original. It is a supplement, not a replacement.

But for those who are familiar with C, this is a collection of routines you would almost certainly have to write yourself in order to write software. There are routines for file handling - save and load, erase, reading disc directories and file status information, setting directories and paths (with MasterDOS), reading and writing disc sectors, etc.; sound routines which can play Etracker compiled tunes, generate a beep or click, printer routines for sending initialization or other codes to the printer, for setting

up page length and margin, and for sending characters to the printer; keyboard input routines including detecting whether ESC is pressed, joystick detection and use; graphics functions for setting up dialogue boxes, setting up hot keys, cursor movement, etc.; numerous functions for handling memory - paging, reserving memory blocks, moving blocks around; and timer functions which allow you to have up to 16 user-defined routines, each to be called after a specific time delay.

There is also provision for Read/Write files, which mimic the OPENTYPE files we are used to. But these files are not accessed directly from the disc. A file exists as a code block in memory and when saved to disc the file is a code file, not OPENTYPE. You can open one file for writing and one for reading. A read file is closed automatically when you reach the end of the file. The function which closes a write file saves it to disc automatically. You can use the standard functions like fprint, fputs to write to the file.

Although the files are like OPENTYPE files to use, the fact that they are not true OPENTYPE files makes them a little more restricted. They are limited in size, although you can use up to 100K, but with a true OPENTYPE file you can have a file up to the spare capacity of a disc - up to 780K on a floppy. There seems to be no random access - you start at the beginning and read right through, without being able to manipulate the file pointer. I found it a little bit disappointing that the MasterDOS file handling routines had not been used, so that full OPENTYPE file handling was made available.

There are extra types such as FAR and BIG which handle 3 byte numbers. Routines are supplied for displaying, comparing, adding and subtracting these large numbers, or for reading them in from their string form. There are no other arithmetical operations for them, such as multiply, divide, MOD etc. They are included so that high memory addresses are accessible, rather than to enable pure mathematics in large numbers. Other types, such as BYTE, UINT and BOOL which are implemented here, are usually found in versions of C used for Windows applications on the PC.

The SAM Vision library is fully relocatable, and the publishers permit its use in programmers' software, provided it is acknowledged.

One thing I found a little irritating. Existing SAM C, and all its functions when used with SAM Vision, have only lower case letters in their headers. The new types, in accordance with established practice in other versions of C which use them, are in capitals. That is fine, but all the other headers in SAM Vision use a mixture of upper and lower case letters, and must be typed exactly right if your program is to compile. So you have ListBox, and if you put 'listbox' or 'Listbox', an error message is generated when you try to compile it.

The handbook is a little careless about the exact form of function headers. I spent some time trying to get the function which reads in a 19 bit number from a string to work, following the instructions and example printed in the handbook, which showed it as:-

```
Eval(BIG *nbr, STRING s)
```

After much struggling I discovered that the function header is actually Eval20. Similarly, the function for detecting whether the ESC key is pressed is

described as Esc in the handbook, whereas its name is Escape. The headers are all listed in their correct forms in the appendix, so if something refuses to work, I recommend checking the function name you found in the body of the handbook against the appendix. It can be discouraging, when you are struggling with a new language, to find that the handbook examples don't work because there is a careless mistake in them

As a newcomer to C, I found the SAM Vision handbook rather less explicit than I would have liked. It is very similar to the SAM C handbook, and I have been using a textbook alongside that which has helped to make everything clear. You can't do that with SAM Vision because it is a non-standard library.

However, I suspect that the program is not really directed at the beginner but at the programmer. It is a very useful collection of routines for those who are programming in C. It will save you loads of time in writing those workday routines that are needed in almost every program. I hope it will encourage more programmers to work in C, because the output has been disappointing so far. But with so many bread-and-butter routines already written for you, there is no excuse for putting off making a start on that program that is buzzing around in your head now

The SAM C upgrade is supplied as standard against new orders, price £19.99, and has been sent to earlier purchasers free. SAM Vision is £14.99. Both programs are from Fred Publishing, whose address and phone number is in their advert.

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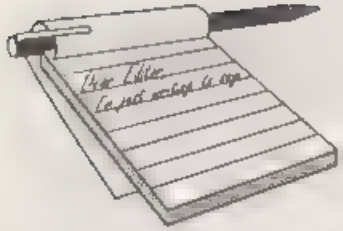

YOUR LETTERS

I've just returned from a week in Greece (Rhodes, to be exact), a sizeable proportion of which was spent sat on the beach, reading six months' worth of ***FORMAT***. Yes, I admit, I've fallen behind with my reading, but I'm now up-to-date, with a great long list of things that it occurred to me to mention. So, I'm afraid it looks as if this letter's going to be a great sprawling epic, but if you want to print any of it, I've put it on disc and numbered the points so that it isn't too much of an incomprehensible blur . . .

(1) ProDOS Lite is now being sold by Persona Software for £15. Whether Brian Gaff is still selling it as well, or if Persona have taken over it completely, I don't know. Somebody, somewhere is apparently working on a version of CP/M 3.0 for the SAM, although when (and whether) this will surface is anyone's guess.

(2) Norwegian Blue corner: Wizard Games, suppliers of 3" discs and various other Speccy-related gubbins have closed down, demised, ceased to be, are pushing up the daisies, etc. One other place you can get 3" discs from is Capri Marketing, although I can't check how much they are because, ah, I gave you my only copy of their catalogue at the show. (Erk.) Also deceased as far as the Speccy's concerned are HiSoft, whom I rang up a while back, and no longer sell any of their Speccy products. I'm led to believe that some of their programs were quite good; is there any possibility of someone like Revelation buying the rights and republishing them? Also, a few more 'where are they nows?' . I tried to get in touch with Sigmasoft last year, and it transpires that the chap who runs/ran it has moved house. The most recent address I've got is the '8, Pine Dale' one. Any ideas? Also, there's two software companies I've been trying to contact with no luck: Elyzuim and Eureka. Their addresses are still printed here and there - am I the only one who can't get a reply?

(3) Further to the Quazar review, I can confirm that Colin Piggot has put the price down to £53.99 including p&p.

(4) At various points in the past, you've hinted at the possibility of games coverage in ***FORMAT***. If you still feel there's a place for such things, would you be interested in carrying some sort of readers' Top 50 Games article, possibly spread over several issues? One way of doing this would be something akin to what YS did: get readers to send in their 10 favourite games, then compile a chart from that, and publish the results with a few words on each game, may be from one of a pool of three or so writers. If you think it'd be a good idea, then I'd be quite willing to compile and organize the whole thing. Whether you'd want to entrust it to someone like me is another matter entirely . . .

(5) Judging by the amount of material about it that's appeared over the last few months, it seems that there's still (and quite rightly) an awful lot of interest in the PCG package. Would it, therefore, be feasible for someone to produce some sort of updated version? There's a similar package on the PCW, but there are certain features it has that, if they could be incorporated into PCG, would be brilliant. For example the option to

design a double A5 page rather than single A4, or produce bold/italicized text without having to mess with extra fonts. Also, a TAB feature would be very useful. Obviously, it wouldn't really be feasible for the 48K version, but on the 128K machines, if (perhaps) the extra pages were used for file-handling, that would free the main memory for extra bits of the main program. It's a real waste that the SAM version is identical to the Spectrum version - the ability to use MODE 4 graphics, the full memory and so on would improve the package enormously. Also, the printer driver needs updating - a lot of people experience the problem of stray characters appearing at the top of pages.

(6) One of the main problems experienced by SAM and Spectrum companies is getting in touch with potential customers. Would it be possible to compile some kind of database of active users? I believe there's already something in existence for the SAM (stemming from SAMCo's old mailing list), but what about the Speccy? No one really knows how many users there are out there, but I suspect that a lot of software houses, PD libraries and fanzines have mailing lists of their own. If these were combined, then we might at least be somewhere near a comprehensive list. These lists (for both the Spectrum and the SAM) could then be made available to companies to send out mailshots, etc. The only problem is that I'm not sure whether the Data Protection registrary approves of such things. Could there be a way around this?

(7) Did you ever hear any more from Andrew Precious about Arrow Software? It'd be nice to have another Speccy software house around - indeed, if you add Arrow Software to Wizard Grafix, Ace Software and Fish Software, we've probably got more companies (well, individuals) releasing new games for the Spectrum than we did in 1992. If you (and other readers) don't know about the other three software houses already, I'd be glad to supply you with the details. If you're reading this, Andrew, I noticed that you're from Acomb, which isn't too far from where I live (I 'm just on the other side of Wetherby). If you want to get in touch, or fancy a chat, or whatever, feel free to give me a ring. My number's 01937 582837. End of penpal ad.

(8) Richard Mason's hardware ideas (March issue) sound fascinating. The main problem is that there's a dearth of people with the skills and the cash to put them into action. Anyone out there with a degree in electronics and a spare couple of thou? By the way Richard, what happened to that GUI program you were supposed to be writing about five years ago?

(9) Darren Forster's letter in the same issue. Some Spectrum PD libraries are:-

Fountain PD, c/o Dave Fennessey, 11 Camel Rd, Silvertown, London, E16 2DE.

Impact PD, c/o Paul Howard, 36, Budges Rd, Wokingham, Berks, RG40 1PJ.

Both stock a very comprehensive range (around 5000 each, although much of this is duplicated), not just of demos, but also a lot of utilities and games. As for additional languages, a quick scan through various catalogues has found loads of Basic expanding utilities from Impact and a Forth interpreter from Fountain. In reply to your query about AMOS, it's an Amiga game-constructing environment in a similar vein to Games Master from Betasoft, which answers Darren's question.

(10) I don't know about Sintech's other products, but SQ-Tracker costs £16 including p&p.

(11) With regard to the letters from and about (how embarrassing for him!) Adrian Walker, perhaps it's the case that for some SAM and Spectrum users,

FORMAT isn't the right magazine. Certainly, it's a very informative, well put-together one, but that doesn't make it ideal for everyone. A lot of people (myself included) use their computer mostly for games, word-processing, and the odd bit of pootling about in Basic. Maybe that's not utilising the computer to its full potential (as I am reminded every time someone my age wows everyone at the Gloucester Show with their latest piece of stunningly optimised code while I'm still getting to grips with the ON/OFF button), but there's not necessarily anything wrong with that. It's just that a person who uses their computer in this way is maybe better suited to a more easy-going magazine such as Crashed or Zodiac. Of course, I should declare an interest here as the ex-editor of Crashed, but I don't think the odd reader directed towards a less technically-inclined magazine than ***FORMAT*** is going to kill you off. What matters is that the SAM maintains as much of its tiny userbase as possible - then we can all benefit.

(12) N. J. Shelley's letter. It has to be said that the commercial potential of the Speccy nowadays is virtually nil. Software houses are sitting on vast back catalogues with which they are doing nothing. Surely, it'd be a good idea to press them towards declaring their games PD or releasing them on CD for the PC (aarrgghh, acronym hell). I mean, Activision have already released a PC compilation of games from the mighty Atari 2600. It'd also be useful if someone could keep tabs of the various pieces of software that have become available again - there's already a growing list of people who've relinquished the rights to their work (including Amstrad, who have declared all of the Speccy manuals public domain!). I believe that Dave from Fountain PD was at one point putting together a database on the PC of all the Speccy games released, but whether this is still a going concern or not I have no idea. Right, that's it. Sorry this has been so long, but I didn't want to leave anything out. Looking forward to the next ***FORMAT***.

PS Nearly forgot : what happened to the emulation and ProDOS columns?

Yours sincerely, Mark Sturdy.

Glad you put your letter on disc Mark, Jenny would have demanded extra pay this month if she had been forced to type that lot in.

Anyway, just to answer a few points (using your numbering system).

(1) Brian Gaff is still supplying ProDOS Lite (£12.50 +£1 p&p for the UK). I've checked and Persona Software is definitely not licenced to sell the program.

(4) I don't want to see straight 'reviews' in ***FORMAT***. However, other games material, especially bits on hacking and conversion, are always welcome.

(5) If anyone would like to have a go at a PCG DTP type program, especially for SAM, then they will have my full co-operation. Currently ***FORMAT*** holds the copyright on the package but allas we have no technical backup for the program (no source files etc.)

(6) There are several databases of Spectrum and SAM users in existance (ours is probably the largest) and we would always be willing to talk to someone who wants to share the cost of a mailshot.

(7) See letter in this issue.

Thanks for the letter Mark. Don't get so far behind with your ***FORMAT***s in future. ***Ed.***

Dear Editor,

As I said on the phone I gave up ***FORMAT*** because I felt that it was all going above my head. I had no idea about computing until the advent of the Spectrum. I am now in my 70's and in my day the height of technology was the slide-rule. Things have changed since

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SCADs PD Yes, at last, we are please to re-release SCADs - the arcade game development system for SAM. Previously sold by Glenco at £24.95 we have now placed the software into the Public Domain so the disc costs you ***Only £2.50***. The full manual (over 200 pages) is also available for £12.95 (overseas please add an extra £1 to postage rates below)

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then. I enjoyed my period with ***FORMAT*** and many of the programs were of great benefit, but I began to feel that many of the articles and letters were way out of my league. Obviously written by people who had far greater knowledge of comps than I ever will have. I still feel that the Spectrum was one of the best little computers ever made and it's 'basic' is so easy to use. Pity that Clive ever sold it to Amstrad.

My best wishes for the future of ***FORMAT***, may it prosper.

Yours sincerely, H.V.Hoare.

Thank you for writing Mr Hoare, and thanks for your very kind wishes. I for one don't think you are too old to learn and I think that it is only knowledge that you require to be able to understand the articles in ***FORMAT***. Just think back to when you first started - you know more now than you did then. No one article can open the floodgates of knowledge but if you keep reading, and if you keep asking questions (which is what we are here for) then your knowledge will continue to grow and more of the articles you read will seem easy. ***Ed.***

Dear Editor,

I have just received the latest issue of ***FORMAT*** Vol 9 N° 9. However, I haven't received issues Vol 9 N° 7 & 8. I didn't know if it was still being produced or not. I own a ZX Spectrum 48K and a +2A. What price is a code No W1026 SAM Coupe 512K? I may get one!

Do you know that ST FORMAT has only got 14379 readers and dropping all the time. They charge £4.25 an issue. Your production has more in it.

I hope you can send me the copies I didn't receive and can you tell me how much back issues cost.

Yours sincerely, John Adams.

If you don't receive your copy of ***FORMAT*** when you expect it then please be patient, especially if you have just sent off a renewal (which can take some time to process and could arrive here too late to go into a particular month's update run). Sit tight and when the next issue arrives, if you are still missing a ***FORMAT***, then give Jenny a ring.

Each month at least a couple of ***FORMAT***'s go missing in the post and we don't tend to get worried about these odd ones. However, if you have lost two in a row then I think an investigation with your local sorting office is called for. ***Ed.***

Dear Editor,

Firstly, I must thank you for an excellent personal service. I am pleased to say that I have had a good response to my search for Alphacom paper and I will be buying some from a Mister Frank Evans when I get some money together.

Now onto my real reason for writing. In response to my last letter, you requested information about Arrow Software, my letter software company type thing. Well, just for you and you fabulous readers, I am writing with a little bit of information about the said company.

Arrow Software isn't much of a company really, as I am the only member! There are problems with being so small, such as not knowing anywhere which sells C-15 tapes, therefore customers will have to supply their own, and not having a disc drive, so I am unable to record games onto disc.

I am an experienced Basic programmer who has just grasped the basics of machine code. In fact, some of my later efforts have appeared in Short Spot.

From this information it would seem like I am not in a very good position to write games at the moment. After all, Basic is not good enough to write games in and I am not good enough at machine code to be able to write games using it yet.

Thankfully, in January 1993, Your

Sinclair published ZIP 2.6 on their covertape. Now I can write games in Basic and convert them into super-fast machine code using ZIP. The end result is very good, especially when you add music created on Sound Tracker, colourful graphics, loads of levels and some of my own machine code routines.

The four games which I have made so far are Tiny Tim (a 25 level platform game), Sam the Dog (a 10 level platformer), Burger Man (a 50 level 'Fast Food' style game) and Very Very Small Cars (an overhead driving game with 10 tracks). All four sell for just £2 each, so they won't burn a hole in your wallet.

So that's Arrow Software in a nutshell for you. If anybody is interested, they should send an SAE marked Arrow Software to my address and I'll send you a price list. Actually, that reminds me. I don't know if you meant to, but you didn't print my address last time. It is: 15, Danebury Drive, Acomb, York, YO2 5EQ.

Thanks very much and keep up the good work! The Spectrum and SAM depend on you!

Yours sincerely, Andrew Precious.

So now we know folks. Hope you do well Andrew. ***Ed.***

Dear Editor,

One point, and one question, if you please. First, may I congratulate N. Shelley on his letter regarding the copyright of old Speccy Software last month. He raised questions that needed to be asked. Congratulations to yourselves, also, for printing it. The whole issue could easily have been swept under the carpet.

In this country of 'freedom of speech', I have to say that I totally disagree with your answer to Mr Shelley (Mr, Mrs?). It was puritanical and to be honest, naive. Your analogy of the library books is cliche to say the least. If the said book is no longer in print and in danger of being forgotten about, surely any distribution between interested parties is to be welcomed.

The Speccy scene seems to be generally peopled by genuine enthusiasts. Lets face it the Spectrum will never be the mass market games machine it was in the mid 80's. We stay with it for different reasons and defy the hype for PC/Consoles. Relaxation of the copyright on older software will do nothing to the existing market, PD will continue to be the forum for people to show off their talents, others who use their Speccys for business shouldn't be affected either. Its a shame you would rather see the Speccy scene die rather than succumb to what is already happening. How about a readers poll - you have around 4000 don't you?

An ostrich with its head in the sand comes to mind.

The question. Any ideas on how to down load data from a PSION 3A to a SAM?

PS. If you print this letter (I hope you do) could you have it as - 'Name and address supplied'.

Yours sincerely, NAAS.

If the copyright owner of a piece of software (or a book, piece of music, ect) is not prepared to licence the distribution of his property then that is the end of the matter. Yes, we can all try to us persuasion to get the owner to change his mind - but he is the owner and that gives him the right to do what he wants (or does not want) with the software.

How would you like it if someone was trying to tell you what you should do with something that belongs to you?

We all need to do what we can to keep the Spectrum alive as it is more than just a computer - it is part of our history, and a very important part at that. However, trying to bend that law just because we want to is not the way. Lets work towards new software, keep the second hand market going as well as we

can so people can still get older software, and do what we can to encourage copyright holders to make their software available again - legally. ***Ed.***

Dear Editor,

With reference to Andy Haywood's problem with printing out on his NEC CP6 might I offer the following advice.

He will need to alter the printer driver in PCB Designer. The code for the paper feed is 27,51,n where n is the number of 180ths or 216ths required. (I have two printers, one uses a 180th feed and the other a 216th feed but they both use the same code for this: 27,51,n - which probably accounts for Andy's problem.)

If the printout is stretched vertically what needs to be done is to find the above code; for example it is 27,51,6 then it should be altered to 27,51,5 which will reduce the vertical movement of the paper, bearing in mind that 6/180ths is equal to 5/216ths.

The head office in the UK for NEC I have listed as: NEC (UK) Ltd., Stonebridge House, Colston Avenue, Bristol, BS1 4TN.

I trust that this is of some help.

Yours sincerely, Patrick McMahon.

Many thanks Patrick. I'm sure that your information will help several people, and not just with PCD Designer either - there have been several letters in the past on PCG's DTP overflowing the page on 24 pin printers which I think your hints will also solve. ***Ed.***

Dear Editor,

As an overseas reader I would find it very expensive to send my SAM to the UK for repair if it ever goes wrong (no problem with it at the moment, but I'm thinking ahead).

So. Would it be possible to obtain parts from you or West Coast (if and when I need them) so I can have my machine repaired by a local company.

Yours sincerely, B.Gibson.

I think I've covered this once before, but I can't find it so I will repeat it anyway.

Yes, no problem, if you have someone local who can fix things we can supply the parts. Just drop us a line with a list and we will get the prices off to you by return. There is no problem with most parts as there is stock with our repair guy we can draw on the same day if necessary.

Faults on SAM are rare anyway - it is a very reliable machine. Apart from keyboard and disc drive problems (which are of course mechanical) the electronics are quite simple. The most common faults are with the 1377 video chip or the ASIC. 1377s are cheap, ASICs are not. But with any luck you will not need spares because your SAM will carry on for many more years. ***Ed.***

Dear Editor,

I have found a company which still has stocks of various interesting peices of Spectrum software like: Artist I; Artist II; Art Studio; BLAST Basic Compiler (up to 40x speed increase); Dumpy (printer utility); Gener 80 (Z80 assembler/editor); Laser Genius (assembler, disassembler, debugger); Make A Chip (utility program to test circuits); Machine Code Test Tool (Utility); Monitor & Dissassembler (SINCLAIRS OWN); Trans Express v86.1 (Romantic Robot's microdrive/tape utility); Zeus Assembler (Z80 assembler/editor); Animator1 (art & sprite program); Poster Machine (printer utility); Mini Sprite (up to 3x3 chr$/UDGs squares. Passable in Animator1); Video DJ (video titling/effects. Also kit to improve further); Roller Coaster (game); Tarantula (cave/jetpac game); Pieces Of Eight (Giant cartoon graphics game); Merlin (Giant cartoon graphics game); S.A.S. (Giant cartoon graphics game).

Their address is: B.C.S., Grantham

B.C.S. Grantham House, Macclesfield, Cheshire SK10 3NP. Their telephone number: 01625 615379

Your sincerely, George Siougas.

Many thanks George. It is wonderful to think that someone in far-off Greece can still track down new sources of Spectrum software. Come on UK readers. Lets have a few more letters like this - there must be many other companies with stocks of old Spectrum titles left on their shelves. ***Ed.***

Dear Editor,

I'm sorry to say that I missed out a vital paragraph in my article on the Spectrum 128K's keypad in last month's ***FORMAT***. Without it the purpose of the article is defeated. Here is the missing text:-

> When the Spectrum 128 reads in nibbles of data from the keypad, the first bit received corresponds to the right hand column of the keypad and the last corresponds to the left hand column. For a key being pressed, its corresponding bit is read in as a 1.

I am also enclosing an article on the 128's light gun for inclusion in a future issue.

Your sincerley, Paul Farrow.

Thanks Paul, I'm full of hope that your article will generate enough interest in someone that they will try to build a keypad. And thank you for the new article, I will try to get it into print as soon as possible. ***Ed.***

Dear Editor,

I have just purchased a SAM Elite but cannot get any of my cassette software to load.

My SAM Software consists of only cassettes given away by 'Your Sinclair'.

Has anyone got the above software on disc. I am particularly interested in getting hold of a copy of the 'Shanghai' software which was found on the December 1992 cover tape and was wondering if any reader had a copy already converted to disc.

Here's hoping.

Yours sincerely, Simon Turk.

Can anyone help Simon? We will pass on any letter we get. ***Ed.***

Letters may be shortened or edited to fit on these pages although we try to edit as little as possible.

This is YOUR letters page so it is up to you to fill it with interesting things. Come on, get writing, any subject even remotely related to computers. Just keep things as short as you can so we can fit in as many as possible each month. Please write clearly or type your letters. Send them to the address on page 3 or fax them to us on 01452 380890.

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